

Amendments to the Specification

Please replace the paragraph bridging pages 3 and 4 with the following amended paragraph:

Diisocyanates which can be used for cross-linking of the chitosans, preferably follow the formula (I),



wherein X represents a linear or ~~branched~~ branched naphthenic or aromatic hydrocarbon residue with 1 to 12 carbon atoms. ~~Prefreably~~ Preferably hexamethylene diisocynate is used as cross-linking agent. As dialdehydes substances following the formula (II) can be used



wherein Y represents a linear or ~~branched~~ branched naphthenic or aromatic hydrocarbon residue with 1 to 12 carbon atoms. ~~Prefreably~~ Preferably glutaric dialdehyde is used as cross-linking agent. The cross-linking agents can be used in amounts of 0.5 to 10, preferably 1 to 8, and especially 2 to 5% by weight.

Please replace the eighth paragraph of page 4 with the following amended paragraph:

- sugar alcohols with 5 to 12 carbon atoms, such as for example sorbitol or ~~mannit~~; mannitol;

Please replace the eleventh paragraph of page 4 with the following amended paragraph:

Usually the polyols are used in amounts from 1 to 10, preferably 2 to 8% by weight, based on the dry substance of the chitosans. Preferably use is made of glycerol and ~~polyethylene~~ polyethylene glycols.

Please replace the first paragraph of page 5 with the following amended paragraph:

Normally aqueous solutions or suspensions of the chitosans with a content of dry matter of 0.5 to 3, preferably 1.8 to 2.2 % by weight with a pH value of 3.5 to 6, preferably 5.0 to 5.7 are prepared by addition of inorganic or organic acids, preferably hydrochloric acid, whereby the temperature should be chosen so that the

swelling of the biopolymers is supported. Normally the temperature lies in the area from 20 to 50 and preferably 35 to 45°C. The suspensions made in this way, in addition to the dissolved biopolymers also contain swollen not dissolved particles. The viscosity of the suspension which appears through the mentioned conditions can be of influence on the ~~mecanical~~ mechanical properties later on. To the suspensions then the glucans and possibly polyols and further cosmetic components are added. For the mechanical properties of the fleeces it has been shown to be of advantage to add to the suspension natural ~~fibres~~, fibers, such as for example lignin, polyose, pektin and especially cellulose, but also ~~sythetic fibres~~ synthetic fibers such as for example polyesters, polyamides or mixtures thereof in an amount of 1 to 50, preferably to 10 % by weight. It is especially recommended to add the ~~fibres~~ fibers before ~~homogenising~~ homogenizing of the solution. Subsequently the suspension is ~~homogenised~~, homogenized, cross-linked with the diisocyanates and/or ~~dialdehyds~~, dialdehydes, and the water is removed. Preferably the removal of water takes place through freeze-drying, and thereafter splitting into blocks or fine slices can take place.

Please replace the paragraph bridging pages 6 and 7 with the following amended paragraph:

As oil bodies use can be made of for example Guerbet alcohols based on fatty alcohols with 6 to 18, preferably 8 to 10 carbon atoms, esters of linear C₆-C₂₂ fatty acids with linear C₆-C₂₂ fatty alcohols, esters of branched C₆-C₁₃ carboxylic acids with linear C₆-C₂₂ fatty alcohols, such as e.g. myristyl myristate, myristyl palmitate, myristyl stearate, myristyl isostearate, myristyl oleate, myristyl behenate, myristyl erucate, cetyl myristate, cetyl palmitate, cetyl stearate, cetyl isostearate, cetyl oleate, cetyl behenate, cetyl erucate, stearyl myristate, stearyl palmitate, stearyl stearate, stearyl isostearate, stearyl oleate, stearyl behenate, stearyl erucate, isostearyl myristate, isostearyl palmitate, isostearyl stearate, isostearyl isostearate, isostearyl oleate, isostearyl behenate, isostearyl oleate, oleyl myristate, oleyl palmitate, oleyl stearate, oleyl isostearate, oleyl oleate, oleyl behenate, oleyl erucate, behenyl myristate, behenyl palmitate, behenyl stearate, behenyl isostearate, behenyl oleate, behenyl behenate, behenyl erucate, erucyl myristate, erucyl palmitate, erucyl stearate, erucyl isostearate,

erucyl oleate, erucyl behenate and erucyl erucate. In addition esters of linear C₆-C₂₂ fatty acids with branched alcohols, especially 2-ethylhexanol, esters of hydroxycarboxylic acids with linear or branched C₆-C₂₂ fatty alcohols, especially dioctyl malate, esters of linear and/or branched fatty acids with polyvalent alcohols (such as e.g. propylene glycol, dimeric diol or trimeric triol) and or Guerbet alcohols, triglycerides based on C₆-C₁₀ fatty acids, liquid mixtures of mono-/di-/triglycerides based on C₆-C₁₈ fatty acids, esters of C₆-C₂₂ fatty alcohols and/or Guerbet alcohols with aromatic carboxylic acids, especially benzoic acid, esters of C₂-C₁₂ dicarboxylic acids with linear or branched alcohols with 1 to 22 carbon atoms or polyols with 2 to 10 carbon atoms and 2 to 6 hydroxyl groups, plant oils, branched primary alcohols, substituted cyclohexanes, linear and branched C₆-C₂₂ fatty alcohol carbonates, Guerbet carbonates, esters of benzoic acid with linear and/or branched C₆-C₂₂ alcohols (e.g. ~~Finsolve~~® FINSOLV® TN), linear or branched, symmetrical or unsymmetrical dialyl esters with 6 to 22 carbon atoms in each alkyl group, ring opening products of epoxy dated fatty acid esters with polyols, silicone oils and/or aliphatic or naphthenic hydrocarbons,

such as e.g. squalan, squalen or dialkyl cyclohexanes, can be used.

Please replace the third full paragraph of page 8 with the following amended paragraph:

Typical examples of suitable polyglycerol esters are polyglyceryl-2-dipolyhydroxy stearate (~~Dehymulus®~~ DEHYMULUS® PGPH), polyglycerol-3-diisostearate (~~Lameform®~~ LAMEFORM® TGI), polyglyceryl-4-isostearate (~~Isolan®~~ ISOLAN® GI 34), polyglyceryl-3-oleate, diisostearyl polyglyceryl-3-diisostearate (~~Isolan®~~ ISOLAN® PDI), polyglyceryl-3 methyl cellulose diisostearate (~~Tego Care®~~ TEGO CARE® 450), polyglyceryl-3 beeswax (~~Cera Bellina®~~ CERA BELLINA®), polyglyceryl-4 caprate (Polyglycerol caprate T2010/90), polyglyceryl-3 cetyl ether (~~Chimexane®~~ CHIMEXANE® NL), polyglyceryl-3 distearate (~~Cremophor®~~ CREMOPHOR® GS 32) and polyglyceryl polyricine oleate (~~Admul®~~ ADMUL® WOL 1403), polyglyceryl dimerate isostearate, as well as their mixtures.

Please replace the second paragraph of page 10 with the following amended paragraph:

Suitable thickening agents are for example types of aerosil (hydrophilic silicic acids), polysaccharides, especially xanthan gum, guar-guar, agar-agar, alginates and methyl celluloses, carboxymethyl celluloses and hydroxyethyl cellulose, as well as higher molecular polyethylene glycol mono- and diesters of fatty acids, polyacrylates, (e.g. ~~Carbopol®~~ CARBOPOLS® from Goodrich or Synthalenes® from Sigma), polyacrylamides, polyvinyl alcohol and polyvinyl pyrrolidone, surfactants such as for example ethoxylated fatty acid glycerides, ester of fatty acids with polyols such as for example pentaerythrite or trimethylpropane, fatty alcohol ethoxylates with narrow distribution of homologous, or alkyl oligoglucosides as well as electrolytes such as sodium chloride and ammonium chloride.

Please replace the third paragraph bridging on page 10 with the following amended paragraph:

Suitable cationic polymers are for example cationic cellulose derivatives, such as e.g. a quaternized hydroxyethyl cellulose, which is available under the name of ~~Polymer JR 400®~~ POLYMER JR 400® from Amerchol, cationic starch, copolymers of diallyl ammonium salts and

acrylamides, quaternized vinyl pyrrolidone/vinyl imidazol polymers, such as e.g. ~~Luviquat®~~ LUVIQUAT® (BASF), condensation products of polyglycols and amines, quaternized collagen polypeptides, such as for example lauryl dimonium hydroxypropyl hydroxyed collagen (~~Lamequat®~~ LAMEQUAT®/Grünau), quaternized wheat polypeptides, polyethylene imine, cationic silicone polymers, such as e.g. amidomethicones, copolymers of adipic acid and dimethylamino hydroxypropyl diethylenetriamine (~~Cartaretine®~~ CARTARETINE®/Sandoz), copolymers of acrylic acid with dimethyl diallylammonium chloride (~~Merquat®~~ MERQUAT® 550/Chemviron), polyamino polyamides, such as e.g. described in FR 2252840 A, as well as their cross-linked water soluble polymers, cationic chitin derivatives such as for example quaternized chitosan, possibly microcrystalline distributed, condensation products of dihalogen alkyl, such as e.g. dibromobutane with bisdialkylamines, such as e.g. bis-dimethylamino-1,3-propane, cationic guar-gum, such as e.g. ~~Jaguar®~~ JAGUAR® CBS, ~~Jaguar®~~ JAGUAR® C-17, ~~Jaguar®~~ JAGUAR® C-16 from Celanese, quaternised ammonium salt polymers, such as e.g. ~~Mirapol®~~ MIRAPOL® A-15, ~~Mirapol®~~ MIRAPOL® AD-1, ~~Mirapol®~~ MIRAPOL® AZ-1 from Miranol.

Please replace the second paragraph of page 11 with the following amended paragraph:

Suitable silicon compounds are for example dimethyl polysiloxane, methylphenyl polysiloxane, cyclic silicones as well as amino, fatty acid, alcohol, polyether, epoxy, fluorine, ~~glykoside~~ glycoside and/or alkyl modified silicone compounds, which at room temperature can be in the liquid as well as in the resin state. Further suitable are simethicones, which are mixtures of dimethicones with an average chain length of 200 to 300 dimethyl siloxane units and hydrogenated silicates. A detailed survey of suitable volatile silicones can also be found in Todd et al., *Cosm. Toll.* 91, 27 (1976).

Please replace the third full paragraph of page 12 with the following amended paragraph:

As enzyme inhibitors are for example esterase inhibitors suited. These are preferably trialkyl citrates such as wie trimethyl citrate, tripropyl citrate, triisopropyl citrate, tributyl citrate and especially

triethyl citrate (~~Hydrageen®~~ HYDRAGEEN® CAT, Henkel KGaA, Düsseldorf/FRG). The substances inhibit the enzyme activity and thereby reduce the odour formation. Further substances which can be used as esterase inhibitors are sterol sulphates or phosphates, such as for example lanosterol, cholesterol, campesterol, stigmasterol and sitosterol sulphate or phosphate, dicarbonic acids and their esters, such as for example glutaric acid, glutaric acid monoethyl ester, glutaric acid diethyl ester, adipic acid, adipic acid monoethyl ester, adipic acid diethyl ester, malonic acid and malonic acid diethyl ester, hydroxycarboxylic acids and their esters such as for example citric acid, malic acid, tartaric acid or tartaric acid diethyl ester, and zinc glycinate.

Please replace the eighth paragraph of page 15 with the following amended paragraph:

- triazine derivatives, such as e.g. 2,4,6-trianilino-(p-carbo-2'-ethyl-1'-hexyloxy)-1,3,5-triazine and octyl triazone, as described in EP A1 0818450, or dioctyl butamido triazone (~~Uvasorb®~~ UVASORB® HEB);

Please replace the third paragraph of page 16 with the following amended paragraph:

As typical UV-A filters especially derivatives of benzoyl methane come in question, such as e.g. 1-(4'-tert.-butylphenyl)-3-(4'-methoxyphenyl)propane-1,3-dion, 4-tert.butyl-4'-methoxydibenzoyl-methane (Parsol 1789), or 1-phenyl-3-(4'-isopropylphenyl)propane-1,3-dion, as also enamine compounds, as described in DE 19712033 (BASF). The UV-A and UV-B filters can of course also be used in mixtures. In addition to the mentioned soluble substances also insoluble light protection pigments can be used for this purpose, i.e. fine disperse metal oxides or salts. Examples of suitable metal oxides are especially zinc oxide and titanium dioxide and in addition other oxides of iron, zirconium, silicon, manganese, aluminum and cerium, as well as their mixtures. As salts silicates (talk), barium sulphate or zinc stearate can be used. The oxides and salts are used in the form of the pigments for skin caring and skin protecting emulsions and decorative cosmetics. The particles should have an average diameter of less than 100 nm, preferably between 5 and 50 nm and especially between 15 and 30 nm. They can have a spherical shape, but particles

can also be used which have an ellipsoidal form or else have a shape which differs from the spherical shape. The pigment can also be present in a surface treated form, i.e. made hydrophillic or hydrophobic. Typical examples are coated titanium dioxides, such as e.g. Titandioxid T 805 (Degussa) or ~~Eusolex®~~ EUSOLEX® T2000 (Merck). As hydrophobic coating agents preferably silicones and especially trialkoxy octyl silane or Simethicone can be used. In sun protecting agents preferably so-called micro or nano pigments are used. In sun protecting agents preferably so-called micro or nano pigments are used. Preferably micronized zinc oxide is used.

Please replace the third paragraph of page 19 with the following amended paragraph:

Into a 2 liter apparatus with a stirrer of 1960 ml of water was added and warmed up to 40° g chitosan (~~Hydagen®~~ HYDAGEN® CMPF, Henkel KGaA, Düsseldorf/FRG) was added. The pH value of the mixture was adjusted to 5.5 by addition of hydrochloric acid. Thereafter 2 g (5% by weight based on dry substance) glycine and 0.5 g betaglucan (~~Higcareen®~~ HIGCAREEN® GS) was added and the mixture was homogenised

with an Ultraturrax. Thereafter 0.87 g (2 % by weight based on dry substance) hexamethylene diisocyanate was carefully stirred in. After the cross-linking the suspension was frozen into a block and subsequently lyophilized. By splitting of the blocks after water removal to the desired thickness, water soluble fleeces were obtained, which by moistening behaved like sponges.

Please replace the fourth paragraph of page 19 with the following amended paragraph:

Into a 2 liter apparatus with a stirrer 1960 ml of water was added and warmed up to 40°C, and 40 g chitosan (~~Hydagen®~~ HYDAGEN® CMPF, Henkel KGaA, Düsseldorf/FRG) was added. The pH value of the mixture was adjusted to 5.5 by addition of hydrochloric acid. Thereafter 2 g (5 % by weight based on dry substance) glycine, 1 g betaglucan (~~Higcareen®~~ HIGCAREEN® GS) and 2 g (5% by weight based on dry substance) cellulose fibers were added and the mixture was ~~homogenised~~ homogenized with an Ultraturrax. Thereafter 0.8 g (2% by weight based on dry substance) hexamethylene diisocyanate was carefully stirred in. After the cross-linking the suspension was frozen into a block and

subsequently lyophilized. By splitting of the blocks after water removal to the desired thickness, water soluble fleeces were obtained, which by moistening behaved like sponges.